

PATENT



Attorney Docket No. A-72323/DJB/VEJ
Attorney Matter No. 465377-01089
Application No. 10/651,057

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Purnendu K. DASGUPTA et al.

Application No. 10/651,057

Filed: **August 27, 2003**

For: **DENUDER ASSEMBLY FOR
COLLECTION AND REMOVAL
OF SOLUBLE ATMOSPHERIC
GASES**

Art Unit: ***To be assigned***

Examiner: ***To be assigned***

Docket No.: **A-72323/DJB/VEJ**

Certificate of Mail (37 C.F.R. § 1.8(a))

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal service on the date shown below with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on 12-11-03.

Patricia A. Diehl

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is hereby submitted in accordance with 37 CFR 1.98 and pursuant to Applicant's continuing duty under 37 CFR 1.56 to bring any information which may be material to patentability of this application to the Examiner's attention. The Examiner's attention is directed to the reference(s) cited on the accompanying substitute for form PTO-1449A/PTO. Copies of the cited references are enclosed, unless otherwise noted below. It is further understood that the Examiner will also consider information that was cited or submitted to the U.S. Patent and Trademark Office in a prior application relied on under 35 U.S.C. § 120. Notice of April 20, 1992, 1138 OG 37-41, at 37; M.P.E.P. § 609 (I)(A)(2).

Applicant makes no representation that a search has been conducted by the Applicant, or that there is not possibly more relevant art. Applicant also makes no representation that the

PATENT

Attorney Docket No. A-72323/DJB/VEJ
Attorney Matter No. 465377-01089
Application No. 10/651,057

information submitted herewith is in fact material to patentability. The filing of this Information Disclosure Statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 11 O.G. 13-25, at 25.

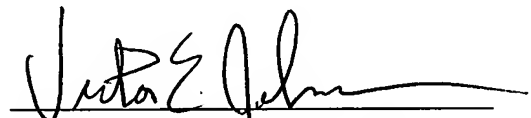
This Information Disclosure Statement is being filed within three months of the filing date of a national application other than a continued prosecution application, within three months of the date of entry of a national stage, before the mailing date of a first Office action on the merits, or before the mailing date of a first Office action after the filing date of request for continued examination. 37 C.F.R. § 1.97(b). No fee is required.

The Commissioner is hereby authorized to charge any underpayment of the following fees associated with this communication, including any necessary fees for extension of time, or credit any overpayment to Deposit Account No. 50-2319 (Matter No. 465377-01089; Docket No. A-72323/DJB/VEJ).

Respectfully submitted,

Date: 12/11/2003

By:



Victor E. Johnson, Reg. 41,546
/for/ David J. Brezner, Reg. No. 24,774
Filed Under 37 C.F.R. § 1.34(a)

DORSEY & WHITNEY LLP
Four Embarcadero Center, Suite 3400
San Francisco, CA 94111-4187
Telephone: (415) 781-1989 Facsimile: (415) 398-3249

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

Application Number	10/651,057
Filing Date	August 27, 2003
First Named Inventor	Purnendu K. DASGUPTA et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	A-72323/DJB/VEJ

Sheet 1 of 3

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	U.S. Patent Document Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	4,999,098	03-12-1991	Pohl et al.	
	A2	6,033,459	03-07-2000	Hase	
	A3	6,497,136 B2	12-24-2002	Satou	
	A4	6,506,345 B1	01-14-2003	Lee et al.	
	A5				
	A6				
	A7				
	A8				
	A9				
	A10				
	A11				
	A12				
	A13				
	A14				
	A15				

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.	Foreign Patent Document Country Code ² Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
	A16					
	A17					
	A18					
	A19					
	A20					
	A21					
	A22					
	A23					
	A24					
	A25					
	A26					
	A27					

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

(1125746)

Substitute for form 1449A/PTO


**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known

Application Number	10/651,057
Filing Date	August 27, 2003
First Named Inventor	Purnendu K. DASGUPTA et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	A-72323/DJB/VEJ

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	† ⁶
	A28	ALLEGRINI et al., <i>Carbon-coated annular denuders and ion chromatographic measurements for the determination of nitrogen-containing species (NO₂ and NO_y) in remote atmospheres</i> , J. Chromatography A, 1999, 846, pp. 265-268.	
	A29	BENNER et al., <i>Comparison of Annular Denuder and Filter Pack Collection of HNO₃(g), SO₂(g), and Particulate-Phase Nitrate, Nitrite and Sulfate in the South-West Desert, Atmospheric Environment</i> , 1991, 25A, pp. 1537-1545.	
	A30	BORING et al., <i>Field Measurement of Acid Gases and Soluble Anions in Atmospheric Particulate Matter Using a Parallel Plate Wet Denuder and an Alternating Filter-Based Automated Analysis System</i> , Anal. Chem., 2002, 74, pp. 1256-1268.	
	A31	BORING et al., <i>Wet effluent parallel plate diffusion denuder coupled capillary ion chromatograph for the determination of atmospheric trace gases</i> , Talanta, 1999, 48, pp. 675-684.	
	A32	DASGUPTA et al., <i>A Multiple Parallel Plate Wetted screen Diffusion Denuder for High-Flow Air Sampling Applications</i> , Anal. Chem. 1997, 67, 24, pp. 5018-5023.	
	A33	DASGUPTA, <i>A Diffusion Scrubber for the Collection of Atmospheric Gases</i> , Atmospheric Environment, 1984, 18, No. 8, pp. 1593-1599.	
	A34	DASGUPTA, <i>Automated diffusion-based collection and measurement of atmospheric trace gases</i> , Comprehensive Analytical Chemistry XXXVII, 2002, Chap. 5, pp. 99-	
	A35	De SANTIS, <i>Comment on Wet Effluent Denuder Coupled Liquid/Ion Chromatography Systems: Annular and Parallel Plate Denuders</i> , Anal. Chem., 1994, 66, pp. 3503-3504.	
	A36	FAN et al., <i>Continuous Automated Determination of Atmospheric Formaldehyde at the Parts Per Trillion Level</i> , Anal. Chem., 1994, 66, pp. 551-556.	
	A37	FITZ et al., <i>A Fabric Denuder for Sampling Semi-Volatile Species</i> , J. Air & Waste Manage. Assoc., 2000, 50, pp. 981-992.	
	A38	GENFA et al., <i>Hematin as a Peroxidase Substitute in Hydrogen Peroxide Determinations</i> , Anal. Chem., 1992, 64, pp. 517-522.	
	A39	HWANG et al., <i>Thermodynamics of the Hydrogen Peroxide-Water System</i> , Environ. Sci. Technol., 1985, 19, 3, pp. 255-258.	
	A40	JAESCHKE et al., <i>Phase Partitioning of Ammonia and Ammonium in a Multiphase System Studied Using a New Vertical Wet Denuder Technique</i> , Atmospheric Environment, 1998, 32, 3, pp. 365-371.	
	A41	KEUKEN et al., <i>Simultaneous Sampling of NH₃, HNO₃, HCl, SO₂ and H₂O₂ in Ambient Air by a Wet Annular Denuder System</i> , Atmospheric Environment, 1988, 22, 11, pp. 2541-2548.	
	A42	LI et al., <i>Measurement of Atmospheric Formaldehyde with a Diffusion Scrubber and Light-Emitting Diode--Liquid- Core Waveguide Based Fluorometry</i> , Field Anal. Chem. & Tech., 2001, 5(1-2), pp. 2-12.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

(1125746)

Substitute for form 1449A/PTO

Complete if Known**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet **3** of **3**

Application Number	10/651,057
Filing Date	August 27, 2003
First Named Inventor	Purnendu K. DASGUPTA et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	A-72323/DJB/VEJ

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	† ⁶
	A43	LI et al., <i>Measurement of Atmospheric Hydrogen Peroxide and Hydroxymethyl Hydroperoxide with a Diffusion Scrubber and Light-Emitting Diode--Liquid- Core Waveguide Based Fluorometry</i> , Anal. Chem., 2000, 72, 21, 5338-5347.	
	A44	LI et al., <i>Measurement of gaseous hydrogen peroxide with a liquid- core waveguide chemiluminescence detector</i> , Analytica Chimica Acta, 2001, 442, 63-70.	
	A45	LI et al., <i>Pulsed Excitation Source Multiplexed Fluorometry for the Simultaneous Measurement of Multiple Analytes. Continuous Measurement of Atmospheric Hydrogen Peroxide and Methyl Hydroperoxide</i> , Anal. Chem., 2003, 75, pp. 1203-1210.	
	A46	MADER et al., <i>Sampling Atmospheric Carbonaceous Aerosols Using a Particle Trap Impactor/Denuder Sampler</i> , Environ. Sci. Technol., 2001, 35, pp. 4857-4867.	
	A47	PHILIPS et al., <i>A Diffusion Scrubber for the Collection of Gaseous Nitric Acid</i> , Separation Sci. & Tech., 1987, 22(4), pp. 1255-1267.	
	A48	ROSMAN et al., <i>Laboratory and field investigations of a new and simple design for the parallel plate denuder</i> , Atmospheric Environment, 2001, 35, pp. 5301-5310.	
	A49	Sakamoto et al., <i>Development of an automatic continuous analyzer for water-soluble gases in air by combining an artificial lung with an ion chromatograph</i> , Atmospheric Environment, 2002, 36, pp. 441-448.	
	A50	SIMON et al., <i>Continuous Automated Measurement of Gaseous Nitrous and Nitric Acids and Particulate Nitrite and Nitrate</i> , Environmental Sci. & Tech., 1995, 29, pp. 1534-1541.	
	A51	Simon et al., <i>Continuous Automated Measurement of the Soluble Fraction of Atmospheric Particulate Matter</i> , Analytical Chemistry, 1995, 67, 1, pp. 71-78.	
	A52	SIMON et al., <i>Wet Effluent Denuder Coupled Liquid/Ion Chromatography Systems: Annular and Parallel Plate Denuders</i> , Anal. Chem. 1993, 65, pp. 1134-1139.	
	A53	TODA et al., <i>Fluorometric Field Instrument for Continuous Measurement of Atmospheric Hydrogen Sulfide</i> , Anal. Chem., 2001, 73, pp. 5716-5724.	
	A54	ZHANG et al., <i>Design of a Straight Inlet Diffusion Scrubber. Comparison of Particle Transmission with Other Collection Devices and Characterization for the Measurement of Hydrogen Peroxide and Formaldehyde</i> , Atmospheric Environment, 1991, 25A, No. 12, pp. 2717-2729.	
	A55	ZHANG et al., <i>Evaporative Losses of Fine Particulate Nitrates During Sampling</i> , Atmospheric Environment, 1992, 26A, No. 18, pp. 3305-3312.	
	A56	ZHANG et al., <i>Theoretical Analysis of Evaporative Losses of Adsorbed or Absorbed Species during Atmospheric Aerosol Sampling</i> , Environ. Sci. Technol., 1991, 25, pp. 456-459.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

(1125746)